

# Collaborative astrophysics and small bodies science activities

Overview of Platforms and Missions

# Facilitate Small Body Science Through Astrophysics Missions and Platforms

- Input from the solar system community in the mission/platform design phases.
- Enhance solar system science capabilities without significantly impacting main astrophysics science priorities.
- Three categories:
  - Ground-Based platforms (15-20 min)
  - Funded and Developed Space Missions (20 min)
  - Proposed Space Missions (15 min)



# Ground-Based Platforms

- **Large Synoptic Survey Telescope (LSST) – Z. Ivezić:** All Sky Survey Telescope, visual band wavelengths, 6.7 meter effective aperture.
- **Thirty Meter Telescope (TMT) – C. Dumas:** Classical/Queued Observing, UV to mid-IR (0.3-15 microns)wavelengths, 30 meter aperture (f/15, 20 arcmin FOV).
- **Giant Magellan Telescope (GMT) – A. Bouchez:** Classical/Targeted Observing, 24.5 meter effective aperture, optical and infrared wavelengths.

# Funded and Developed Space Missions

- **James Webb Space Telescope (JWST) – S. Milam:** Classical Observing + Targeted Survey, infrared wavelengths, 6.5 meter primary mirror.
- **Wide Field Infrared Survey Telescope (WFIRST) – J. Bauer:** Targeted Survey + Classical Observing, optical and infrared wavelengths, 2.4 meter primary mirror.

# Proposed Space Missions

- **The Large UV/Optical/IR Surveyor (LUVOIR) – W. Harris:** Classical/Targeted Observing + Targeted Survey, UV/optical & infrared wavelengths, 10+ meter primary mirror.
- **The Origins Space Telescope (OST) – S. Milam:** Targeted Survey + Classical/Targeted Observing, infrared to sub-mm wavelengths, 8 to 15 meter aperture.
- **Habitable Exoplanet Imaging Mission (HabEx) – P. Scowen:** Targeted Survey, optical and infrared wavelengths, 10+meter aperture.
- **The Large X-ray Telescope for Revealing the invisible Universe (Lynx)– S. Wolk:** Targeted Observing, X-ray wavelengths (100eV to 15 keV), 5 to 2 meter effective aperture and 0.5 to 0.1 arcsec resolution.
- **Spectro-Photometer for the History of the Universe, Epoch of Reionization, and Ices Explorer (SphereX) – C. Lisse:** All-Sky Spectral Survey, WISE orbit and survey pattern, optical to near-IR wavelengths, 10 cm effective aperture.